

Third Edition

# Stirring the Head, Heart, AND Soul

*Redefining  
Curriculum,  
Instruction, and  
Concept-Based  
Learning*

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# Concept-Based Curriculum

## 2

We are caught in a curious blend of old and new content. Pressures to meet academic standards have left a pot of mulligan stew at the schoolhouse door. Schools purchase this program and that, trying to address the breadth of content and skills delineated in state standards and district curricular frameworks. Teachers cringe to hear that they must toss in “just one more thing.” This continual addition of ingredients into the simmering curriculum stew has created a pot of mush. We are in a crisis. Just what should we be teaching? Significant knowledge and ideas are becoming lost in the mix.

Process outcomes address the personal abilities that students will need for responding to the trends, but they do nothing to address the problems of subject area content. How do we make decisions on what content is most valuable to include in our limited school hours? And how do we ensure that meaningless content will be replaced with worthwhile content?

- Elementary teachers collect myriad instructional material through the years. But how can they ever use all that material? The current wisdom is that less is more, making much of that “stuff” obsolete.
- American history classes live in the past and race toward the future but often crash at the end of World War II. (Some determinedly speed through to U.S. involvement in Vietnam.) The dogged pursuit of a chronological compendium of events contributes to the loss of significant understandings—which are the lasting lessons of history.

## TRADITIONAL CURRICULUM

Many teachers still rely heavily on textbooks to tell them what to teach. Yet textbooks, because of their topic focus, cover too much content and fail to address the lasting ideas that can be applied to current and future trends.



Historically, curriculum has been governed by discrete subject areas and topical organizers for content. Figure 2.1 shows the traditional model of a burgeoning array of topics sprouting from science and history. The unwavering focus in schooling has been on memorization of an increasing body of facts and the practice of skills.

The problem with this model is that the information base in our world is challenging the best of microchips. School districts try to keep up with this information explosion by looking to state standards as the parameters for what to teach. Local **curriculum frameworks**, however, usually resemble the traditional booklets and lists of isolated student learning objectives that were prevalent in the early 1980s, because that is what we know. Although we do need skill-based objectives, the format for writing content objectives usually tickles only the lowest cognitive levels, serving as fodder for a trivia pursuit intellect.

There is more than one effect of this lower-level love affair with trivia. Perhaps most significantly, studying topics and facts as information to be memorized fails to engage the deeper intellect of students. When students are encouraged to think beyond the facts and to connect factual knowledge to ideas of conceptual significance, they find relevance and personal meaning. And when students become personally and intellectually engaged, they are more motivated to learn because their emotions are involved: they are mind-active rather than mind-passive. Could the curricular lack of personal, intellectual engagement be a major reason why so many students are apathetic toward their studies?

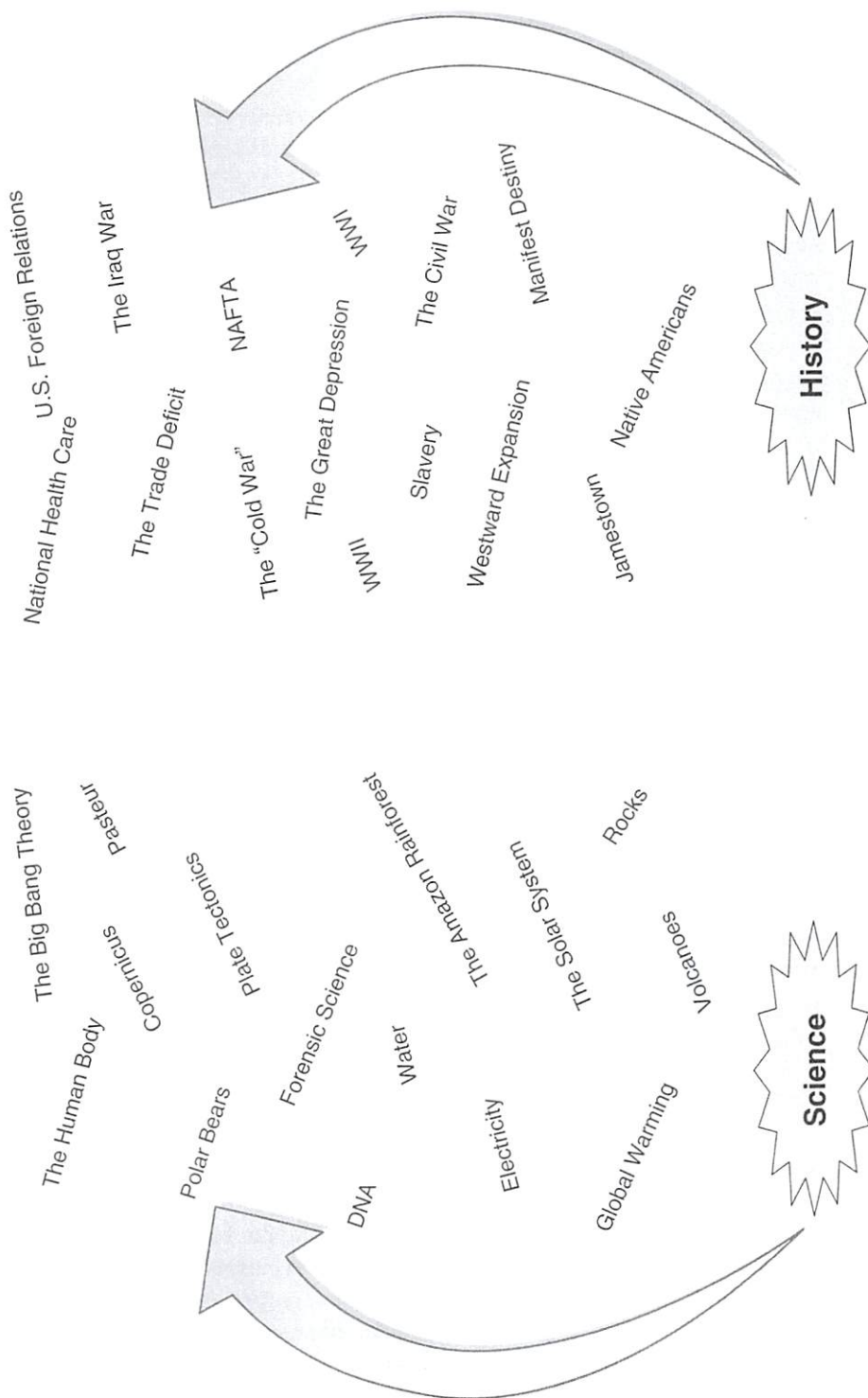
A second effect of content coverage is that we miss the deeper, transferable understandings. Kings, queens, dates, and the presidents and all their men: what significance do they hold for understanding our world and the human condition? Certainly, as isolated bits of stored memory they hold little significance, but as key historical players in life's drama their social situations, actions, and reactions hold lasting lessons for understanding the human condition today and for predicting the world of tomorrow.

There is ongoing debate between historians and social studies educators as to the best approach for teaching content. Both groups have developed a set of national standards for their disciplines, and both integrate economics, politics, sociology, anthropology, and geography. The primary differences between them appear to be in pedagogy and approaches to content:

- Historians use specific events and people to promote historical thinking, and avoid conceptual generalizations.
- Social studies educators use specific events and people to teach historical thinking, but encourage students to identify the lessons of history and the human experience by relating specific content to conceptual generalizations.

Sam Wineburg, who at the time was a professor of educational psychology and history at the University of Washington, wrote a powerful article for the *Phi Delta Kappan* titled "Historical Thinking and Other Unnatural Acts" (Wineburg, 1999). Wineburg includes in the article a cogent explanation as to why historians

**Figure 2.1** Traditional Model: Topic-Based Curricula



basically eschew the practice of generalizing in history, and he balances this view with the realization that one cannot understand the past without relating to the thread of human experience:

The study of history pivots on a tension between the familiar and the strange, between feelings of proximity to and feelings of distance from the people we seek to understand. . . . [But] we discard or just ignore vast regions of the past that either contradict our current needs or fail to align easily with them . . . [and] we contort the past to fit the predetermined meaning we have already assigned to it. . . . Yet, taken to extremes, regarding the past “on its own terms”—detached from the circumstances, concerns, and needs of the present—too often results in esoteric exoticism . . . which fails to engage the interest of anyone except a small coterie of professionals. (p. 490)

Wineburg (1999) goes on to quote the philosopher Hans-Georg Gadamer:

How can we overcome established modes of thought when it is these modes that permit understanding in the first place? . . . Trying to shed what we know to glimpse the “real” past is like trying to examine microbes with the naked eye—the very instruments we abandon are the ones that enable us to see. (p. 492)

Historians have a valid concern in one respect: generalizations may make it too easy for students of history to wrap the complexities of events, issues, and people from different times and places into neat little summary statements. I have seriously considered this argument—then I look at the current history standards and am struck with the realization that historians want it both ways. They want students to develop historical thinking (a laudable aim), and they want students to know every war, date, and general, figuratively speaking (a not-so-laudable aim). We cannot have it both ways because each goal takes a great deal of time. If the breadth of content forces teachers to choose, they are going to emphasize the study of facts because they perceive that is what will be tested—and in most cases they are correct. It is harder to assess historical thinking because it includes factual knowledge, conceptual understanding, and reasoning ability. Nevertheless, it is historical thinking that will develop depth of understanding and the ability to reason critically.

As I have watched and worked with history teachers, I have seen the generalizations and guiding questions actually stimulate historical thinking abilities. When students (and teachers) consider specific events, issues, and historical figures through a **conceptual lens**, they are forced to analyze, evaluate, and investigate at deeper levels as they consider the transferable legitimacy of an idea.

Wineburg (1999) concludes in his article that our best chance at having students understand the past is to develop their sensibility to the time, culture, perspectives, and people. They must engage with primary source documents and



literature that convey the emotions and perspectives of the time. They will naturally want to use their experience as a frame of reference, but we can broaden that frame by heightening their sensibilities. Wineburg points out that most history textbooks are written in a dispassionate, dry discourse and do little to develop historical sensibility. (And we wonder why history is one of the least favored subjects among students!) All history teachers would enjoy reading *Historical Thinking and Other Unnatural Acts*, Wineburg's 2001 book that extends his earlier writings.

The model presented in this book will show how the events of history can become lessons of history with the focused exploration of concepts and representative examples viewed through time. Culture, change and continuity, trade, justice, law and order, and diversity and commonality can serve as conceptual lenses. A conceptual lens forces students to think through and beyond the facts to consider the transferable lessons of history—the generalizations that highlight patterns and connections of human experience.



SOURCE: Cartoon by David Ford, davidford4@comcast.net.

In *The Disciplined Mind*, Howard Gardner (1999) states that

it should be clear by now why a "fact-based" approach will make even less sense in the future. One can never attain a disciplined mind simply by mastering facts—one must immerse oneself deeply in the specifics of cases and develop one's disciplinary muscles from such immersion. (p. 126)

Gardner is a leader in the popular view that understanding is a performance—a public exhibition of what one knows and is able to do. Gardner (2006) provides many examples of quality performances in his revised and updated book, *Multiple Intelligences*—performances that reflect conceptual or disciplinary depth and breadth. Nevertheless, the reality in many classrooms is that the rich performances that Gardner advocates materialize as shallower activities that fall short of a demonstration of understanding. This happens because our curriculum designs do not explicitly state the deeper ideas to guide instruction. Consequently, classroom performances demonstrate a skill tied to a topic rather than to a deeper, conceptual understanding.

Some state standards unknowingly reinforce this confusion of activity for performance of deeper understanding. For example, the following **performance indicator** might be suggested for teachers as evidence that a student understands that governments influence the lives of citizens: “Identify the rules that people are asked to follow.” This performance indicator shows us that students can identify rules, but stops short of showing whether students understand the idea of governmental influence.

A concept-based curriculum raises the bar for curriculum design, instruction, and assessment in history because it forces students to use meta-analysis to evaluate historical issues. The big ideas, guiding questions, and understanding performances cause students to examine and understand the particular perspectives, emotions, causes, and effects of events and issues in different times and places.

## CONCEPT-BASED CURRICULUM

Concepts are the foundational organizers for both interdisciplinary curriculum and single-subject curriculum design. They serve as a bridge between topics and generalizations.

Hilda Taba (1904–1967), a visionary educator in the 1950s and 1960s, saw the value of conceptual organizers for content. Her research on developing higher levels of thinking was funded through a Federal Department of Education research project, which she completed in February 1966 at San Francisco State College. Today, more than ever, we need to reexamine Taba’s views and extend her work: she provides positive direction for increasing the intellectual functioning of students. Development of critical and creative thinking is essential for the challenges of the 21st century.

## HISTORICAL PERSPECTIVE: HILDA TABA

Taba (1966) refers to concepts as “high level abstractions expressed in verbal cues and labels, e.g., interdependence, cultural change and causality” (p. 48). She states that a person’s understanding of a concept grows as he experiences increasingly complex, conceptual examples. In science, for example, a student might learn

about the concept of “Force” at Grades 4, 8, and 12, but the specific examples used at each grade level would represent increasingly complex principles as the child progressed (see Table 2.1).

**Table 2.1** Gradated Examples of Force

| <i>Grade 4: General Science</i> | <i>Grade 8: Physical Science</i> | <i>Grade 12: Physics</i> |
|---------------------------------|----------------------------------|--------------------------|
| Force as action/reaction        | Newton's second law of momentum  | Friction<br>Hydraulics   |
| Pulleys and force               | Machines and gravity             | Pneumatics               |
| Gravity as a force              | Pressure                         | Torque                   |
| Reduction of force              | Energy transfer                  | Electromagnetism         |

Taba (1966) refers to generalizations and principles as the main ideas of the content under study. She differentiates generalizations from principles by stating that generalizations usually include qualifiers in their statements, such as conflict is often caused by differences in values and beliefs (p. 49). Taba proposes that content coverage could be focused and delimited by letting the main ideas—the generalizations—determine the direction and depth for instruction. She holds that specific content should be sampled rather than covered (p. 49).

Another insightful Taba truism is the observation that learning has multiple objectives—the learning of content and the learning of increasingly sophisticated behaviors in thinking, attitudes, and skills—and that these objectives call for different forms of instruction at different levels of complexity.

Taba's (1966) study consisted of an experimental research design using a trained group of 12 teachers and a control group of 12 untrained teachers. All of the elementary grade teachers instructed students with a social studies curriculum that used topics and facts as a vehicle for teaching major concepts and main ideas.

The trained teachers received 10 days of intensive instruction on using the social studies curriculum to develop students' cognitive processing abilities. Trained teachers learned to sequence and pace instruction to allow for maximum student response. The concept “Formation Strategy” required students to identify what they were seeing, formulate groupings of items by common characteristics, and label and subsume like items under organizing concepts.

Taba (1966) found that the cognitive maps of the teacher are critical to facilitating the cognitive development of the student. By “cognitive map,” Taba refers to the levels of understanding related to the content under study, as well as the nature of the thinking processes. The teacher's task of “protecting the student's creative and autonomous thinking” (p. 60) while reinforcing the logic of content calls for high sensitivity in the instructional setting.



Taba's (1966) research found that students in the trained groups showed a greater number of thought units, which were also longer and more complex than the control groups. The trained students exhibited the convergence of low- and high-level thought units into logical generalizations (the main ideas) that were related to the content.

Although the greatest problem for the teachers was a feeling of pressure to cover the curriculum (sound familiar?), test results demonstrated that the time spent on process teaching and learning did not impede strong achievement in learning the fact-based information (Taba, 1966).

## CONCEPTUAL ORGANIZERS

A conceptually organized curriculum helps solve the problem of the overloaded curriculum. Concepts bring focus and depth to study and lead students to the transferable, conceptual understandings. (These conceptual ideas are commonly referred to as "enduring understandings" [Wiggins & McTighe, 1999], "essential understandings" [Erickson, 1995], or "big ideas" in today's educational jargon. In this book, I will use the term "enduring understanding" or "generalization" to create less confusion over terminology.) It is important to clarify the issue of concepts in general before we return to their value in curriculum organization.

### What Is a Concept?

A universal concept is a mental construct that is timeless, universal, and abstract (to different degrees). Although the specific examples of a concept may vary, the general attributes of the concept will always be the same. "Symmetry," as a concept, has many different examples, but the attributes of symmetry (balance and equivalence) are the same across all examples. "Symmetry," as a concept, can be found across disciplines, such as in art, science, mathematics, or music.

Concepts are a higher level of abstraction than facts in the structure of knowledge. They serve as cells for categorizing factual examples. Conceptual understanding continues to grow more sophisticated as new examples fill each concept cell. Because concepts are timeless, they provide lessons through the ages. Because they are universal, their examples may be derived from any culture.

It is common in educational circles today to hear the word "theme" being used for the ideas I am defining as concepts. The problem with this practice is that the definition of theme is so loose that topics sometimes become confused with concepts. This is a significant problem in interdisciplinary curriculum if the goal is higher-level, integrated thinking. Units centered on a **topical theme** (e.g., "Dinosaurs") will only result in a coordinated, **multidisciplinary** curriculum. This means that multiple subjects coordinate facts and activities related to a common topic. Interdisciplinary curriculum, described in detail in Chapter 4, requires a conceptual as well as a topical focus if thinking is to be integrated. (For instance, "The Extinction of Dinosaurs" is a conceptual theme.) Themes, therefore, can be either topical or conceptual. In this book, I avoid the term "theme"

and use the term “unit title” for the sake of clarity when discussing the design of instructional units.

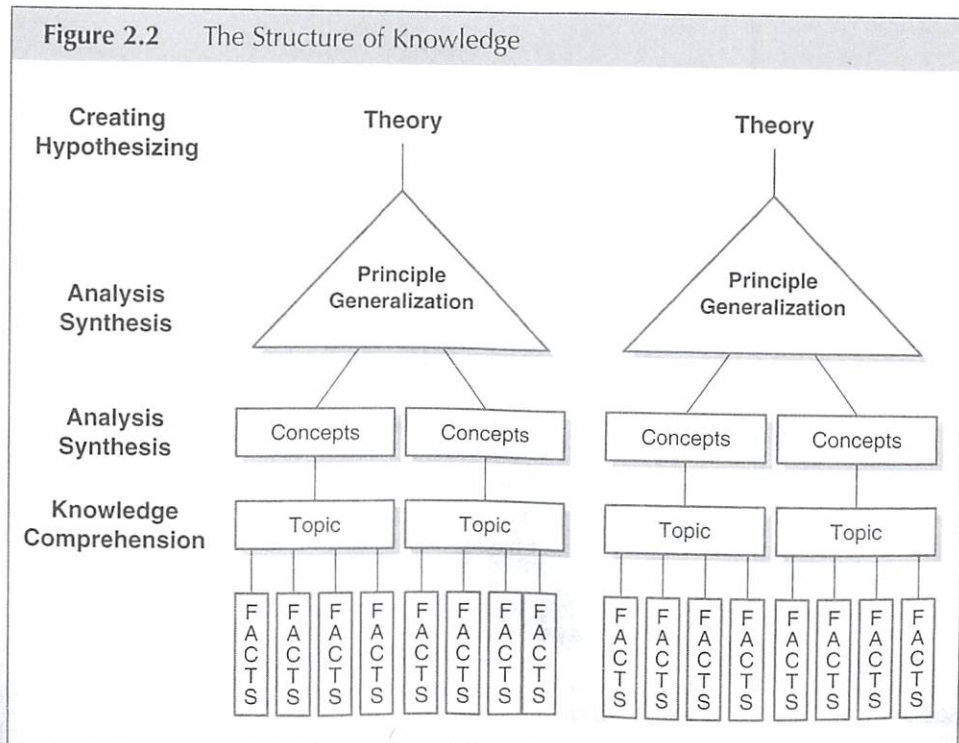
## Where Do Concepts Fall in the Structure of Knowledge?

Figure 2.2 illustrates the relationship of concepts to topics and facts, generalizations, principles, and theories in the structure of knowledge. Traditionally in education, we have spent the majority of our content study on the lowest cognitive level: the memorization of isolated facts.

The oft-quoted Third International Mathematics and Science Study (TIMSS) study that compared U.S. curriculum to higher achieving industrial countries really characterizes the problem best: “American curriculum is an inch deep and a mile wide” (Schmidt, McKnight, & Raizen, 1997). Although there is controversy over whether the TIMSS research is an unbiased and accurate international comparison, no one can argue that schools in the United States cover far more content than do schools in other industrial nations. Common sense tells us that massive content coverage will be intellectually shallow when time is limited.

I was surprised to realize, through my work in curriculum, the generally shallow cognitive level most of us have experienced as students in our educational paths. I now think this is largely the result of fact-based rather than idea-based emphases in textbook and curriculum design. Later in our lives, we often teach as we were taught. Educators today, however, know that students must be actively and mentally engaged in their learning. As a result, educators are adjusting the

**Figure 2.2** The Structure of Knowledge



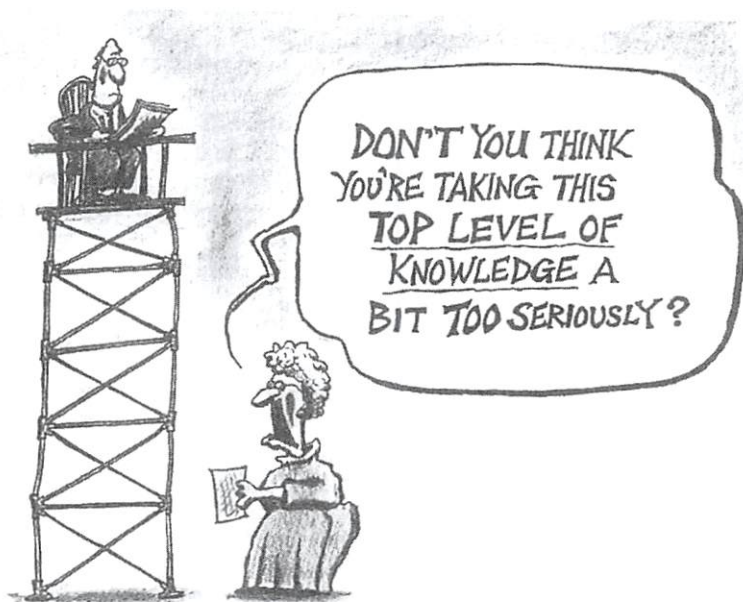


learning experience. Unfortunately, many textbook materials and some standards continue to be structured with low cognitive expectations and a continued emphasis on coverage over intellectual engagement.

Some people would argue that students cannot apply higher-level thinking processes until they have a wealth of factual knowledge, but I disagree. As a first-grade teacher, I enlisted creative and critical thinking from my students to solve problems. For example, using the concept of "Need Versus Want," my students built new homes for our two imaginary pets, Chalk Mouse and Pencil Mouse. Chalk Mouse ate the teacher's chalk, and Pencil Mouse ate the pencils. They lost their homes in a natural disaster, when the custodian accidentally disposed of them. The challenge for students was to decide what Chalk Mouse and Pencil Mouse would need and what they would want in a home.

Students gathered their materials for the project and went to work. The students had chalk and pencils for the mice to eat, water for them to drink, ladders for them to climb up and down from desks, and soft straw for them to lie on. Needless to say, this exercise was the expression of critical and creative thinking at its finest. The room was buzzing with discussion of need versus want. The critical point is that the students were responsible for solving the problem. (I'm sorry to say that Chalk Mouse turned to dust with the invention of the white board in classrooms.)

Perhaps in the days of relatively unsophisticated technology and global isolationism, it was not as critical to think at high levels. Nevertheless, the game has changed. Global interdependence and sophisticated technologies require that we raise the intellectual as well as the content standards in classrooms.



## What Are Some Examples of the Subject Area Organizing Concepts?

Teachers frequently want to know if there is a master list of concepts for each subject area. Except for the field of science, there are no formal lists at this time. It would be helpful to have national subject area organizations develop their lists of the most significant organizing concepts as frames for the critical content. Certainly, the dialogue among the professionals has started, but the task of delineating grade level and subject area concepts is not yet complete.

We need not wait, however. I have seen some of the most intense professional dialogues occur among subject area staff as they relate the content they teach to the organizing concepts. This process forces teachers to consider the most important ideas for instruction. Table 2.2, Resource A, and Resource B show examples of concepts for different subject areas. Note the macroconcepts that cut across disciplines. Because these concepts rise above the fact base and can be exemplified through multiple disciplines, they are often used as organizers for integrated, interdisciplinary curriculum, which will be the focus of Chapter 4.

The sample science concepts in Table 2.2 are taken from the national science standards (National Research Council, 1996). The macroconcepts are referred to as integrating concepts in the national science standards because they can be applied across all three science disciplines—earth, life, and physical. They lead to the encompassing, enduring ideas that explain our world and universe. The

**Table 2.2** Examples of Subject Area Concepts

| <i>Macroconcepts</i> |                       |                              |
|----------------------|-----------------------|------------------------------|
| <i>Science</i>       | <i>Social Studies</i> | <i>Literature (Thematic)</i> |
| Change               | Change/continuity     | Change                       |
| System               | System                | System                       |
| Order                | Patterns              | Relationships                |
| Interactions         | Interactions          | Interactions                 |
| Interdependence      | Interdependence       | Interdependence              |
| <i>Microconcepts</i> |                       |                              |
| <i>Science</i>       | <i>Social Studies</i> | <i>Literature (Thematic)</i> |
| Organism             | Culture               | Perception                   |
| Energy conservation  | Landforms             | Character                    |
| Waves                | Scarcity              | Passion                      |
| Heat/light/sound     | Immigration/migration | Love/hate                    |
| Bond energy          | Inventions            | Family                       |
| Phase changes        | Trade                 | Conflict                     |



microconcepts are the more discipline-specific concepts, although some of them also transfer across disciplines.

Another source for identifying discipline-based concepts is in the national standards for each discipline (see Resource B). In some standards, such as the national science standards, the concepts are easily identified and labeled. In other standards, such as standards for history, one must know the difference between a topic and a concept and be able to draw out those differences. I would suggest the use of a highlighter pen to note the concepts in standards before beginning curriculum development work at the local level.

Please note in Table 2.3 that literature has three types of concepts: One type arises out of the literature itself—out of the themes of literature. “Family,” “Love,” and “Conflict” are examples of the first type of concept. The second type is drawn from the author’s craft. How does the author use concepts such as “Character,” “Symbolism,” “Allegory,” “Foreshadowing,” and so on to convey meaning or create effects? Recently, I have come to appreciate that there is a third type of concept for literature—the reader’s craft. What do we want students to understand conceptually from the reader’s frame of reference? We want students to understand that readers use context clues and connotative language to interpret the meaning of text, for example. The concepts in Table 2.3 for reader’s and writer’s craft were suggested by my friend and colleague, Dr. Lois Lanning, Assistant Superintendent for the Pomperaug Regional School District 15, Middlebury, Connecticut. Sample macroconcepts for the reader’s craft are “Comprehension” (of text), “Reader Response” (to text), “Critical Stance” (to text), and “Purpose” (for reading). Each of these macroconcepts is supported by microconcepts such as text structure, imagery, or personal reflection. An English teacher I hold in high regard—Del Whitmire, from Green Bay, Wisconsin—suggests two additional microconcepts for the author’s or writer’s craft:

*Illumination.* The identification of particularly descriptive or significant passages

*Connecting Epiphanies.* Identifying emotional connections based on similar situations. (Whitmire, personal communication, February 17, 2007)

Identifying the major concepts for a topic of study is not as difficult as it seems. If you were asked to name the major concepts for a unit on “U.S. Trade,” “The Economic Concepts of Scarcity,” “Supply and Demand,” and, of course, “Trade” would spring to mind. Once you have a list of terms related to the unit title, you can run them through the concept definition test.

### Concept Definition Test

Does the term you are considering as a higher-level concept serve as a mental frame or construct for a class of examples? Does it meet the following criteria?

- Broad and abstract (macrolevel to microlevel, but must transfer)
- Represented by one or two words

**Table 2.3** Literary Concepts

| Concepts in Themes      | Reader's/Listener's/Viewer's Craft<br>(Macroconcepts/Microconcepts)* | Writer's/Speaker's Craft<br>(Macroconcepts/Microconcepts)* |
|-------------------------|--|--|
| Power                   | Comprehension (of text)  | Voice  |
| Identity                | • <i>Strategies/Skills</i>   | • <i>Tone</i>  |
| Survival                | • <i>Directionality</i>  | • <i>Mood</i>  |
| Fear                    | • <i>Matching</i>  | • <i>Dialect</i>   |
| Inner Conflict          | • <i>Self-regulation</i>   | Organization   |
| Courage                 | ○ Problem solving  | • <i>Transitions</i>                                       |
| Love                    | ○ Metacognition  | • <i>Text structure</i>                                    |
| Relationships           | ○ Self-correction  | • <i>Leads</i>   |
| Loss                    | ○ Reading rate   | • <i>Details</i>   |
| Friendships             | • <i>Text language</i>   | Fluency  |
| Caring/Sharing          | • <i>Inference</i>   | • <i>Rhythm</i>  |
| Jealousy                | • <i>Summary</i>   | • <i>Cadence</i>   |
| Tolerance               | • <i>Connections</i>   | • <i>Flow</i>  |
| Idealism                | • <i>Imagery</i>   | Word Usage   |
| Isolationism            | • <i>Genre</i>   | • <i>Conventions</i>                                       |
| Greed                   | • <i>Text Structures</i>   | ○ Grammar  |
| Sacrifice               | • <i>Background knowledge</i>  | ○ Mechanics  |
| Compromise              | Response (to text)   | ○ Format   |
| Control                 | • <i>Interaction (of text and reader)</i>                            | ○ Epithets   |
| Justice                 | ○ Connection   | ○ Epigrams   |
| Humanity/<br>Inhumanity | ○ Discourse  | • <i>Onomatopoeia</i>                                      |
|                         | • <i>Perspective</i>   | ○ Language   |
|                         | • <i>Personal reflection</i>   | • <i>Alliteration</i>                                      |
|                         | • <i>Literary criticism</i>  | • <i>Symbolism</i>   |
|                         | • <i>Motivation</i>  |  |
|                         | Critical Stance  |  |
|                         | • <i>Evaluation</i>  |  |
|                         | • <i>Judgment</i>  |  |
|                         | • <i>Text evidence</i>   |  |
|                         | • <i>Synthesis of ideas/information</i>                              |  |
|                         | Purpose (for reading)  |  |
|                         | • <i>Audience</i>  |  |
|                         | • <i>Information</i>   |  |
|                         | • <i>Entertainment</i>   |  |
|                         | • <i>Explanation</i>   |  |
|                         | • <i>Research</i>  |  |
|                         | • <i>Reading rate</i>  |  |
|                         | • <i>Goals</i>   |  |

SOURCE: Reprinted with permission from Dr. Lois Lanning, Avon, Connecticut.

\*Macroconcepts are formatted as regular text; microconcepts are italicized and listed with bullets.



- Universal in application
- Timeless (carries through the ages)
- Represented by different examples that share common attributes

*Example:* "Conflict," as a concept, has many different examples, but the examples share the characteristics of opposing forces and friction.

Let's try it. Which of the following are concepts? Apply each of the following terms to the test:

- |                |               |
|----------------|---------------|
| • Conflict     | • Persuasion  |
| • Family       | • Power       |
| • Culture      | • Revolution  |
| • Change       | • Model       |
| • Fitness      | • Dinosaurs   |
| • Human rights | • Polar bears |
| • China        | • Cooperation |



SOURCE: Cartoon by David Ford, davidford4@comcast.net.

How did you do? If you recognized that China, dinosaurs, and polar bears are topics that hold learning to the fact and activity base, then you are correct. But remember that you can apply a concept to the study of a topic, and to shift

learning to a higher cognitive plane. In the following examples, consider the effects on instruction and learning when the conceptual lens is focused on the topics under study:

| <i>Topic Example</i> | <i>Possible Conceptual Lens</i> |
|----------------------|---------------------------------|
| Polar bears          | Habitat/survival                |
| Global warming       | Sustainability                  |

### **Why Should Curriculum Documents Provide a Conceptual Structure for the Content of Different Subject Areas?**

- A conceptual structure for curriculum is important because conceptual understanding requires content knowledge, but the reverse is not necessarily true. National and state standards include the statement, “Students will understand the concepts and principles of mathematics, science, social studies, and so on.” It is recognized that an understanding of concepts and principles signifies a deeper understanding of content knowledge.
- A conceptual structure is efficient for handling the growing body of information. Concepts focus and streamline the breadth of content.
- A conceptual structure forces students to think about topics and facts in terms of their transferable significance.
- A conceptual structure allows kindergarten teachers through postsecondary professors to become a team as they systematically build conceptual understanding and develop student intellect.
- A conceptual structure provides an instructional model that is idea centered, rigorous, and engaging for both students and teachers.
- A conceptual structure ensures that teachers are clear on the concepts and generalizations that students must understand at each level of schooling. It is not assumed that students and teachers will reach deeper understanding of ideas by covering the course objectives.

### **Why Are Concepts Better Than Topics Alone as Curricular Organizers?**

Curriculum design in the United States today is flawed in most subject areas because it relies on topics alone to organize content. If we are to truly raise standards, then a conceptual overlay for the topics and facts is critical.

Table 2.4 compares the value of concepts and topics as curricular organizers.

**Table 2.4** Solely Topical Organizers and Conceptual Overlays

| <i>Solely Topical Organizers</i>                              | <i>Conceptual Overlays</i>   |
|---|--|
| Frame a set of isolated facts                                 | Provide a mental schema for categorizing common examples   |
| Maintain lower-level thinking                                 | Lead to higher levels of thinking  |
| Hold learning to the fact or activity level                   | Aid in the development of higher-order generalizations   |
| Have short term use—to cover an event, issue, or set of facts | Serve as a tool for processing life events   |
| Increase the overloaded curriculum                            | Reduce the overloaded curriculum by framing the most salient, or critical examples of the concepts |

## GENERALIZATIONS

### What Are Generalizations? Why Are They So Important for 21st-Century Education?

Generalizations are the enduring understandings, the answer to the “so what” questions of study. They synthesize the factual examples and summarize learning. An excellent discussion of generalizations can be found in *Teaching Strategies for Ethnic Studies* by James Banks (1991). Banks differentiates between lower-level, intermediate-level, and universal-level generalizations that are related to a factual example:

*Fact:* The Chinese immigrants who came to San Francisco in the 1800s established the *hui kuan*.

*Lower-Level Generalization:* Chinese immigrants in the United States established various forms of social organizations.

*Intermediate-Level Generalization:* All groups that have immigrated or migrated to the United States have established social organizations.

*Universal-Level Generalization:* In all human societies, forms of social organizations emerge to satisfy the needs of individuals and groups. (pp. 43–45)

It is interesting to note that Banks (1991) differentiates the levels by the statement’s degree of generalizability. I would consider Banks’s lower and intermediate levels to be facts rather than generalizations, however, because these two levels give specific noun subjects and use past tense verbs. The parts of the sentences that generalize are the conceptual phrases; when these phrases are linked to specific nouns, they fall into the category of facts. The past tense verbs do not permit transfer through time, which is a critical attribute of universal generalizability.



In this book, the focus is on the **universal generalizations**—the enduring understandings that have applicability through time and across cultures. These are the lessons of history that can be used as references in considering and comparing new situational examples. Some possible generalizations for a unit on Native American culture and change might include the following:

- Cultures change over time.
- Cross-cultural interaction fosters the exchange of ideas, goods, and services.
- Social, political, or economic change can cause conflict within a society.
- Dominant cultures can disrupt minority cultures.
- Merging cultures create social, political, and economic change.

When people do not understand the significance of teaching to conceptual understandings they may be alienated by the abstract statements. They may think, “These ideas are too difficult for children to understand. Why not just write straightforward facts?” But the truth is, when students can discuss conceptual ideas and use the facts to support those ideas they gain a deeper grasp of knowledge. They also gain the ability to transfer knowledge. We want students to be able to use and understand conceptual language. This is certainly possible if we build conceptual brain schemata from grade level to grade level in a **developmentally appropriate** manner.

Teachers do not usually tell students the generalizations at the beginning of a lesson. They teach inductively to develop students’ abstract thinking abilities as they relate specific facts to transferable understandings. Students will develop their own insights as they learn to synthesize facts to the level of abstract relevance. It is important to ensure that student generalizations are supported with facts. At times, students may make inaccurate generalizations, leaps of abstraction in their zeal to know the answer. Teachers must think on their feet as they foster the development of students’ higher-level abstraction through reasoning and critical thinking. They teach students to use primary and secondary sources to support their generalizations. They question students to help them clarify their thinking. (Chapter 7 discusses additional strategies and provides examples for concept-based instruction.)

Because the path from specific topics to the concepts and generalizations is a new and somewhat difficult skill, teachers’ first attempts at teaching to ideas may be very broad surface learnings, such as “Governments influence culture.” But as they question the broad ideas with “How?” or “Why?” and delineate the ideas more specifically, these surface learnings become powerfully stated, clear statements. An example of a more specific idea might be “Governments structure a society to maintain order.” The learning curve for thinking from facts to conceptual understandings is very steep. Teachers around the country are becoming very skilled at writing clear and powerful generalizations for instruction.

Some educators feel that young children are not capable of abstracting to the level of generalizations, but children are capable of abstract thought and generalization when they are called for in the context of developmentally appropriate content.

As one example, a group of kindergarten and first-grade teachers in Richmond, Indiana, developed a unit around the concept of "Color" for their young students. The unit title they chose was "The Value of Color in Our Rainbow World." They engaged students in many activities such as the following to demonstrate the concept:

- Using scarf draping to decide as a group whether each child looks best in winter, spring, summer, or fall colors
- Taking environmental walks to note and appreciate how the different colors create interest for the viewer
- Identifying how color is used to keep people safe

When asked how color helps us in our world, the children were able to generalize (with a little help on the lead-in) that color "can make us pretty," "makes our environment more interesting," and "keeps us safe."

Generalizations are summaries of thought and answer the relevancy question, "What do I understand as a result of my study?" Generalizations are deeper understandings that transfer through time and across cultures. They hold truth as long as they are supported by the situational examples. Banks (1991) explains that even though a generalization is capable of being tested or verified, it can never be proven absolutely to be correct. Because of the complexity of human behavior, generalizations in the social and behavioral sciences are necessarily tentative and often contain qualifiers. Generalizations are important, however, as conceptual summaries of thought.

## A Universal Generalization Defined

A *generalization* is defined formally as two or more concepts stated in a relationship. Universal generalizations have characteristics similar to concepts:

- Broad and abstract (macrolevel to microlevel)
- Universal in application
- Generally timeless—may need to be qualified as "often, can, or may" if the ideas do not hold through time in all cases
- Represented by different examples which support the generalization

Apply the characteristics to the following idea: "Cultures regulate social behavior through norms and mores." Does this idea meet the criteria to qualify as a generalization?

Universal generalizations, as they are written, use no past, past-perfect, or present-perfect verb tenses. To do so would identify them in time as facts. For example, the sentence "Poverty was a catalyst for migration" is past tense and may

be a factual generalization referencing a particular time and place, but it is not a timeless, universal generalization as stated. How could we change this fact into a timeless generalization?

Although generalizations are usually timeless, they are more susceptible to demise than are concepts. Concepts are timeless; because generalizations are interdependent variables, they may not hold over time. For example, a current generalization could be, "Trade stimulates an economy." If a nation's trade deficit makes it overly dependent on other countries, however, the generalization eventually breaks down. Generalizations are helpful constructs for summarizing conceptual relationships, but their timeless validity must be tested continually through analysis of contemporary, factual examples. If a generalization is an important idea, but does not hold across all cases, then the qualifiers "often," "can," or "may" can be used in the sentence.

Universal generalizations avoid proper and personal nouns. "Japanese trade affects the American economy" is a fact because it states specific examples. The universal generalization is written, "Trade affects an economy." This statement can be supported through time by numerous examples. As students progress through the grades, the generalizations should become more sophisticated by drawing on more complex concepts. Concepts and generalizations provide a framework for the articulation and coordination of curriculum in both single-grade and multiage schooling structures.

Chapter 3 looks at state standards and considers their impact on local curriculum design. Do standards support or impede concept-based curriculum and instruction at the local level? Chapter 3 shares examples of district curricula that adhere to a concept-based design as they align to state standards.

## SUMMARY

The use of universal and lasting concepts to structure the massive amount of content that educators present to students provides a rational plan to teach for the transfer of knowledge. Concept-based curriculum and instruction solve problems:

- How to reduce an overloaded curriculum
- How to systematically articulate K–12 curriculum to engage higher-level, complex thinking and develop deepened understanding
- How to raise academic standards by bringing relevance and rigor to learning through idea-centered curricula

Concept-based curriculum designs allow the teacher to control rather than be controlled by the subject matter, and provides the flexibility to allow students to search for and construct knowledge.



### EXTENDING THOUGHT

1. How does concept-based curriculum design reach beyond the memorization of isolated facts?
2. When students dialogue about issues at a conceptual level, they may be debating a variety of perspectives. What are the ramifications for instruction? What are teachers' responsibilities?
3. What role do topics and facts play in a concept-based curriculum design?
4. Why is a conceptual schema important as a framework for learning in today's world?
5. What is the value of a universal generalization to the learning process?
6. What are the dangers of generalizing related to
  - Shallow thinking and low-level generalizations?
  - Leaps of abstraction without supporting data?
  - Bias in generalizing?